

2 Types of Signaling Pathways

\_\_\_\_\_ are hydrophobic or small  
such as \_\_\_\_\_

No \_\_\_\_\_  
pathway required

Uses \_\_\_\_\_  
Receptors

An example is  
\_\_\_\_\_ signaling

\_\_\_\_\_ are hydrophilic  
or large such as  $\text{Ca}^{2+}$  or proteins

\_\_\_\_\_ pathway is required

Uses \_\_\_\_\_  
Receptors

\_\_\_\_\_ Receptors

\_\_\_\_\_ bind to  
membrane receptor

\_\_\_\_\_ activates G-Protein

G-Protein activates  
\_\_\_\_\_

\_\_\_\_\_ activates  
second messenger \_\_\_\_\_

G-Protein activates  
\_\_\_\_\_

\_\_\_\_\_ activates  
second messenger \_\_\_\_\_

\_\_\_\_\_ Receptors

\_\_\_\_\_ bind to  
membrane receptor

\_\_\_\_\_ receptor  
\_\_\_\_\_ & activated by  
\_\_\_\_\_

Activated \_\_\_\_\_ receptor  
activates kinases

Lead to \_\_\_\_\_  
\_\_\_\_\_ that amplify  
messengers for a response

Target \_\_\_\_\_  
happens